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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte GUILLERMO J. TEARNEY, BRETT EUGENE BOUMA, MILEN STEFANOV SHISKOV, and JONATHAN JAY ROSEN

Appeal 2012-004672
Application 09/709,162
Technology Center 3700

Before DONALD E. ADAMS, ERIC GRIMES, and ERICA A. FRANKLIN, *Administrative Patent Judges*.

ADAMS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal under 35 U.S.C. § 134 involves claims 68, 70-72, 74, 76-82, 84-94, 96-102, 104-141, 147, 148, 153, 154, 156, 157, and 159-162 (App. Br. 4; Ans. 3).[1] We have jurisdiction under 35 U.S.C. § 6(b).

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[1] Examiner's Answer and Appellants' Briefs lack precision as to the status of the claims (*see* App. Br. 3-4; *Cf.* App. Br. A-1 - A-22; *see e.g.* Ans. 4 (wherein Examiner rejected, for example, canceled claim 75); *Cf.* App. Br. A-2 ("Claim 75 (Cancelled))). Examiner and Appellants agree that claims 150 and 151 are pending and on appeal. These claims are, however, free from rejection. Examiner and Appellants also agree that claims 68, 70-72, 74, 76-82, 84-94, 96-102, 104-141, 147, 148, 153, 154, 156, 157, and 159-

STATEMENT OF THE CASE

The claims are directed to an apparatus for obtaining information associated with an anatomical structure (*see e.g.,* claim 68) and an apparatus for obtaining diagnostic information associated with an anatomical structure and modifying at least one property of at least one portion of the structure (*see e.g.,* claim 89). Claims 68 and 147 are representative.

Claims 68, 70-72, 74, 81, 82, 84-87, 89-94, 101, 102, 104-107, 109-116, 118-128, 130, 137-140, 147, 148, 153, 154, 156, 157, 161, and 162 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kittrell.[2,3]

Claims 88, 108, 117, 129, 131-136, 141, and 159-160 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Olinger.[4,5]

Claims 76-78 and 96-98 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Webb.[6]

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162 are pending and on appeal. Therefore, we limit our deliberation to these claims. Examiner finds that pending "[c]laims 142-146 stand allow[able]" (Ans. 3; *see also* App. Br. 3).

[2] Examiner's statement of the rejection includes cancelled claims 69, 73, 75, 95, 152, and 155 (Ans. 4; *Cf.* Appellants' April 6, 2011 Amendment 24: 8-9 ("Claims 69, 73, 75, 95, 152, 155 and 158 have been cancelled …without prejudice")). The cancelled claims were not included in our statement of the rejection.

[3] Kittrell et al., US 5,318,024, issued June 7, 1994.

[4] Examiner's statement of the rejection includes cancelled claim 158 (Ans. 6; *Cf.* Appellants' April 6, 2011 Amendment 24: 8-9). Cancelled claim 158 was not included in our statement of the rejection.

[5] Olinger et al., US 3,941,121, issued March 2, 1976.

[6] Robert H. Webb, et al., WO 99/44089, published September 2, 1999.

Claims 79-80, 99, and 100 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Baker.[7]

We affirm the rejection of claims 68, 70-72, 74, 81, 82, 84-87, 89-94, 101, 102, 104-107, 109-116, 118-128, 130, 137-140, 148, 153, 154, 156, 157, 161, and 162 under 35 U.S.C. § 102(b) as being anticipated by Kittrell. We vacate the rejection of claim 147 under 35 U.S.C. § 102(b) as being anticipated by Kittrell in favor of a new ground of rejection. We affirm all other grounds of rejection.

Anticipation:

ISSUE

Does the preponderance of evidence on this record support Examiner's finding that Kittrell teaches Appellants' claimed invention?

FACTUAL FINDINGS (FF)

FF 1. We adopt the Examiner's findings concerning the scope and content of the prior art (Ans. 5) and provide the following for emphasis.

FF 2. For clarity we reproduce Appellants' Figure 1 below:

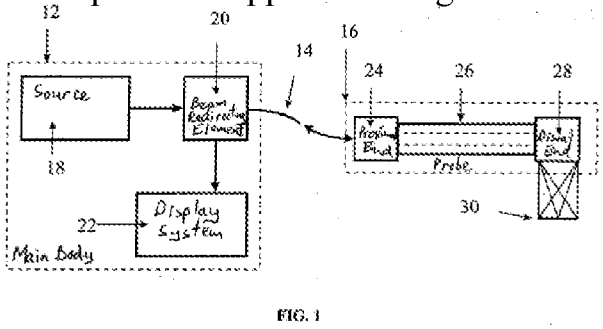

FIG. 1

> Fig. 1 shows an endoscope … consisting of [a] main body 12 connected through a hybrid … cable 14 to a probe 16…. The

[7] Baker et al., US 5,275,594, issued January 4, 1994.

> main body 12 incorporates a broadband source 18 that sends the illuminating light to the beam-redirecting element 20…. This beam-redirecting element 20 sends out the light from the source 18 to the probe 16 and redirects the returning light from the probe 16 to the detection and display system 22. The detection system is preferably associated with a computer with a microprocessor (not shown).

(Spec. 9: 7-18.)

FF 3. Appellants disclose that "[t]he optics of the head 28 [of the probe] is designed to produce linear, spectrally encoded illumination and to collect the reflected light and transmit it back to the detection system 22" (Spec. 11: 6-8).

FF 4. Appellants disclose that "light from the source 18 is delivered by the fiber 14 to the head 16 and focused by an objective 32 onto the sample 30. In a preferred embodiment the objective 32 is a lens" (Spec. 11: 8-10).

FF 5. For clarity, we reproduce Kittrell's Figure 21 below:

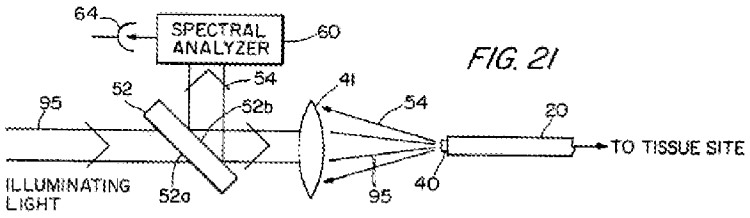

FIG. 21

"FIG. **21** is a schematic diagram of a method and apparatus wherein the same optical fiber may be used for illuminating and collecting return light for spectral analysis" (Kittrell, col. 7, ll. 20-23; *see generally* Ans. 5).

FF 6. As illustrated in Kittrell's FIG. 21

> Excitation light **95** … from a laser or conventional light source is sent into a selected optical fiber **20**…. This light passes through a beam splitter **52** or a mirror with a hole…. It is focused onto the input end **40** by a lens **41**. The light exits the distal end of the optical fiber **20**, passes through the optical

> shield …, and impinges on the tissue…. The fluorescence and scattered light is returned via the same or a different optical fiber **20** to the proximal end **40** of the optical fiber **20**. This return light **54** is separated by the beam splitter **52** … [and] enters a spectrum analyzer **60**.

(Kittrell, col. 19, ll. 20-36; *see generally* Ans. 5 and 8-9.)

FF 7. Kittrell teaches that light may be dispersed prior to being directed into the fiber or upon return from tissue (Kittrell, col. 20, ll. 58-67; *see generally* Ans. 5 and 9).

FF 8. Kittrell teaches that "the optical shield … may … be made to act as a lens" (Kittrell, col. 15, ll. 3-4; *see generally* Ans. 5 and 8).

ANALYSIS

Appellants provide separate arguments for the following groups of claims: (I) claims 68, 70-72, 74, 81, 82, 84-87, 89-94, 101, 102, 104-107, 109-116, 118-128, 130, 137-140, 148, 153, 154, 156, 157, 161, and 162 and (II) claim 147. Claims 68 and 147 are representative. 37 C.F.R. § 41.37(c)(1)(iv).

Claim 68:

Appellants fail to identify, and we do not find, a definition in their Specification of "an image-forming lens arrangement" as that term is used in claim 68. Therefore, we interpret the phrase "an image-forming lens arrangement" as an arrangement that focuses light directed toward and received from a structure, e.g. tissue sample (*see generally* FF 2-4; *Cf.* FF 5-8).

We interpret Appellants' arrangement which is structured to obtain information based on a radiation obtained from the structure to be a

detection system, e.g. spectrum analyzer, which is preferably associated with a computer with a microprocessor (FF 2-3; *Cf.* FF 5).

Appellants contend that Kittrell's lens "cannot … form an image of any anatomical structure," but instead forwards "radiation to a spectral analyzer …, which then forms an image but only based on the spectrum (i.e., not an image) of the radiation provided by … [Kittrell's] lens" (App. Br. 28-29 (emphasis removed)). According to Appellants Kittrell's "computer 80 – not any arrangement or system of lenses … - is what forms images based on the radiation (and not images) provided by the lenses" (Reply Br. 2 (emphasis removed)). We are not persuaded.

Appellants fail to distinguish the apparatus comprising, *inter alia*, "an image-forming lens arrangement" of their claim 68 from Kittrell's apparatus, which comprises a lens arranged to focus light (1) directed toward a structure, i.e., tissue sample and (2) returning from a structure (*see* FF 2-4; *Cf.* FF 5-8).

While apparently conceding that Kittrell's "lens 41 … may be image-forming," Appellants contend that "the radiation being forwarded to the spectral analyzer 60 is in no way then forwarded to at least one section of any structure, much less regarding which the information is being obtained" (App. Br. 31 (emphasis removed)). According to Appellants, "the lens 41 of … Kittrell … does not form any image when it transmits the radiation to the sample through the prism 224. Indeed, the radiation being transmitted to the sample through the prism 224 in … Kittrell … provides absolutely no images whatsoever" (Reply Br. 4 (emphasis removed)). We are not persuaded.

Like Kittrell, light forwarded from Appellants' light source to the structure, i.e. tissue sample, also "provides absolutely no image whatsoever" (*Cf.* Reply Br. 4). Instead, it is the light returning from the sample that provides information that forms an image (FF 2; *Cf.* FF 5-6). Accordingly, we are not persuaded by Appellants' intimation that radiation returning from the sample in Kittrell does not contain information based on a radiation obtained from the structure, tissue sample (*see* App. Br. 31; *Cf.* FF 5-6). Further, contrary to Appellants' assertion, neither Kittrell, nor claim 68, requires radiation to be forwarded to a structure, i.e., tissue sample, after it is forwarded to the spectral analyzer (*see id.*).

In sum, we are not persuaded by the contentions set forth in Appellants' Brief and Reply Brief. Instead, after full consideration of Appellants' contentions, we find that Appellants fail to distinguish the apparatus of claim 68 from the apparatus taught by Kittrell.

Claim 147:

During the November 15, 2012 Oral Hearing, Appellants' representative agreed that claim 147 is indefinite. It is legal error to analyze a claim based on "speculation as to meaning of the terms employed and assumptions as to the scope of such claim[]." *In re Steele*, 305 F.2d 859, 862 (CCPA 1962). Accordingly, we vacate the rejection of claim 147 under 35 U.S.C. § 102(b) as being anticipated by Kittrell.

CONCLUSION OF LAW

The preponderance of evidence on this record supports Examiner's finding that Kittrell teaches the invention of Appellants' claim 68. The rejection of claim 68 under 35 U.S.C. § 102(b) as being anticipated by

Kittrell is affirmed. Claims 70-72, 74, 81, 82, 84-87, 89-94, 101, 102, 104-107, 109-116, 118-128, 130, 137-140, 148, 153, 154, 156, 157, 161, and 162 are not separately argued and fall together with claim 68. 37 C.F.R. § 41.37(c)(1)(iv).

Claim 147 is indefinite for the reasons that are set out in the new ground of rejection below. Therefore, the rejection of claim 147 under 35 U.S.C. § 102(b) is not susceptible to a meaningful review on the merits and is vacated.

Obviousness:

ISSUE

Does the preponderance of evidence on this record support a conclusion of obviousness?

ANALYSIS

Appellants contend that Olinger, Webb and/or Baker do not cure the deficiencies in Kittrell (App. Br. 32; *see also* Reply Br. 4). Having found no deficiency in Kittrell, we are not persuaded by Appellants' contention to the contrary.

CONCLUSION OF LAW

In the absence of persuasive evidence and/or argument to the contrary, the preponderance of evidence on this record supports a conclusion of obviousness.

The rejection of claim 88 under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Olinger is affirmed. Because they are not separately argued claims 108, 117, 129, 131-136, 141, and 159-160 fall together with claim 88. 37 C.F.R. § 41.37(c)(1)(iv).

The rejection of claim 76 under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Webb is affirmed. Because they are not separately argued claims 77, 78, and 96-98 fall together with claim 76. 37 C.F.R. § 41.37(c)(1)(iv).

The rejection of claim 79 under 35 U.S.C. § 103(a) as unpatentable over the combination of Kittrell and Baker is affirmed. Because they are not separately argued claims 80, 99, and 100 fall together with claim 79. 37 C.F.R. § 41.37(c)(1)(iv).

New Ground of Rejection:

Claim 147 is rejected under 35 U.S.C. § 112, second paragraph as indefinite.

Appellants' claim 147 depends ultimately from and further limits the optical fiber of claim 68 to have "*an end portion* that is provided at a position of an image plane *of the at least one portion* which is established by the lens" (Claim 147 (emphasis added)). Initially, we note that it is unclear to which end of the optical fiber the phrase "end portion" refers (*see id.*). It is further unclear what the antecedent basis is for the phrase "of the at least one portion" (*see id.*).

The legal standard for indefiniteness under 35 U.S.C § 112, second paragraph, is whether a claim reasonably apprises those of skill in the art of its scope. *See, Amgen Inc. v. Chugai Pharmaceutical Co., Ltd.* 927 F.2d 1200, 1217 (Fed. Cir. 1991). As Appellants' representative recognized during the November 15, 2012 Oral hearing, claim 147, as presented for review on this Appeal, fails to reasonably apprise those of skill in the art of its scope.

TIME PERIOD FOR RESPONSE

Regarding the affirmed rejection(s), 37 C.F.R. § 41.52(a)(1) provides "Appellant may file a single request for rehearing within two months from the date of the original decision of the Board."

In addition to affirming the Examiner's rejection(s) of one or more claims, this decision contains a new ground of rejection pursuant to 37 C.F.R. § 41.50(b). 37 C.F.R. § 41.50(b) provides "[a] new ground of rejection pursuant to this paragraph shall not be considered final for judicial review."

37 C.F.R. § 41.50(b) also provides that the Appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of the appeal as to the rejected claims:

> (1) Reopen prosecution. Submit an appropriate amendment of the claims so rejected or new evidence relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the proceeding will be remanded to the examiner….
>
> (2) Request rehearing. Request that the proceeding be reheard under § 41.52 by the Board upon the same record….

Should the Appellant elect to prosecute further before the Examiner pursuant to 37 C.F.R. § 41.50(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the Examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the Appellant elects prosecution before the Examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Patent Trial and Appeal Board for final action on the affirmed rejection, including any timely request for rehearing thereof.

AFFIRMED-IN-PART; VACATED-IN-PART; 37 C.F.R. § 41.50(b)

cdc